

APPENDIX C: CHANGES TO BARNS, LAGOONS, AND PIPING

2.1 LAGOON REMOVAL AT LACEY 4 GRIMES AND LACEY 6 MILLER

No later than 24 months after entry of this Consent Decree (which time may be extended by EPA following a written request by Defendants setting forth the basis for such an extension), Defendants shall remove the existing lagoons at Lacey 4 Grimes and Lacey 6 Miller, as follows:

- a.) Defendants shall remove the liners and bio-solids from the existing lagoons and compost same for off-site reuse, dispose off site at a licensed landfill, or land apply off-site at agronomic rates, in compliance with all applicable laws and regulations.
- b.) Defendants shall remove all soils below existing liners that are visibly contaminated and dispose of or land-apply on-site or off-site at agronomic rates, in compliance with all applicable laws and regulations.
- c.) Defendants shall grid-sample the entire area of each removed lagoon, up to and including the high-water line for the lagoon, on 40 foot centers with 5 samples composited per grid and, at Defendants' election, either:
 - 1) Analyze samples in the laboratory for electrical conductance (EC); or
 - 2) Analyze samples in the field using field leaching procedures and a test kit, with limited laboratory confirmation, by sending one composite sample per every 20 composite samples to a laboratory for analysis.

Defendants shall remove all soils at depths of 3 feet or less and of lateral extent less than $\frac{1}{4}$ acre with nitrate-nitrogen concentrations greater than 100 mg/kg (or EC greater than 120 percent of background). If field sampling suggests that there are larger or deeper areas with concentrations greater than 100 mg/kg nitrate-nitrogen (or EC greater than 120 percent of background), Defendants may propose an alternative approach for these larger, deeper areas, subject to EPA approval.

Defendants shall provide all results of grid sampling to EPA's project manager within 45 days of receipt of preliminary laboratory analytical data.

- d.) Whenever materials are land applied pursuant to 2.1(b) above, Defendants shall determine the agronomic rate of application in compliance with Title 35, Chapter 17, Subchapter 3, Section 14 of the Oklahoma Administrative Code, utilizing guidance found in USDA NRCS Waste Utilization Standard 633 (except that Defendants will not be required to incorporate/till into any fields the materials applied pursuant to Paragraph 2.1(b) above), Oklahoma Conservation Practice Standard Nutrient Management 590, and OSU Extension Fact Sheet F-2225. Upon request, Defendants shall provide to EPA the yield goals utilized in this determination and the information and sources on which such yield goals were based.

2.2 LACEY 6 MILLER INFRASTRUCTURE RESPONSE

Defendants shall, within 30 days of entry of this CD, provide a written report to EPA describing all efforts undertaken to date to assess the likely source of elevated nitrate-nitrogen along the west end of the Lacey 6 Miller barns and shall perform additional assessment that the EPA deems necessary to characterize the elevated nitrate-nitrogen in groundwater, based on EPA's review of Defendant's submittal. At the conclusion of any required assessment, if EPA concludes that a response is required to eliminate the Infrastructure Source or to restore groundwater to the Section 1.1 cleanup objectives within a reasonable timeframe, Defendants shall propose a Work

Plan setting forth an appropriate remedy to EPA within 60 days of EPA providing written notice of this conclusion.

EPA may approve the Work Plan or decline to approve it and provide written comments. Within 60 days of receiving written comments from EPA, Defendants shall either (a) revise the submittal consistent with the written comments and provide the revised submittal for final approval to EPA; or (b) submit the matter for dispute resolution, in accordance with the terms of this Decree. Upon receipt of EPA's final approval of the Plan, or upon completion of the dispute resolution process, Defendants shall implement the approved submittal in accordance with the schedule specified therein.

2.3 LAGOON LEAK DETECTION VIA GROUND WATER MONITORING OR LEACHATE COLLECTION

Seaboard shall conduct all sample analyses pursuant to Oklahoma Title 35, Chapter 17, Subchapter 3, Section 35:17-3-11.(e)(6)(H). All sampling events shall also include field measurement for temperature. All monitor well sampling events shall record depth to water.

2.3.1 LEACHATE COLLECTION

Seaboard shall conduct leachate monitoring at Lacey 4 Grimes and Lacey 6 Miller solely through a leak detection system (without the use of monitoring wells) and respond if and to the extent required by section 2.4(a). Seaboard shall monitor this system monthly at its collection sump for five years following entry of this Decree, and thereafter pursuant to State requirements. The volume of leachate recovered shall be recorded, or noted in the facility operating records as having been examined and found to not have liquid available for sampling. Seaboard shall make analytical results available to EPA upon request.

2.3.2 GROUND WATER MONITORING

Seaboard shall conduct ground water monitoring for leak detection at Lacey 1 Bryan and Norris, Lacey 3 Watson, and Fairview Nursery Complex as follows (except to the extent that such monitoring is being performed by the State of Oklahoma and Seaboard does not contest the results of such monitoring), and respond if and to the extent required by section 2.4(c):

- a.) Seaboard shall perform semi-annual ground water monitoring (except to the extent that such monitoring is being performed by the State of Oklahoma and Seaboard does not contest the results of such monitoring) for five years following entry of this Decree, using only the following wells:

Bryan Sow

Upgradient wells for barns – 519-05, 519-11, 519-14
Downgradient wells for barns – 519-07, 519-15
Upgradient wells for lagoon – 519-04, 519-10, 519-11
Downgradient wells for lagoon – 519-05, 519-08, 519-09

Norris

Upgradient wells for barns – 6540-05, 6540-06, 6540-07
Downgradient wells for barns – 6540-04, 6540-10

Watson Finisher

Upgradient wells for barns – 580-07, 580-09
Downgradient wells for barns – 580-05, 580-08, 580-14
Upgradient wells for lagoon – 580-04, 580-10
Downgradient wells for lagoon – 580-06, 580-11

Fairview Nursery 1

Downgradient wells – 6200-06

Fairview Nursery 3

Upgradient wells – 3200-01

- b.) Seaboard shall perform annual ground water monitoring (except to the extent that such monitoring is being performed by the State of Oklahoma and Seaboard does not contest the results of such monitoring) for five years using only the following wells:

Fairview Nursery 1

Upgradient wells – 6200-9

Downgradient wells – 6200-3, 6200-07, 6200-08

Fairview Nursery 2

Upgradient wells – 6300-07

Downgradient wells – 6300-04, 6300-05, 6300-06

Fairview Nursery 3

Upgradient wells – 3200-06

Downgradient wells – 3200-02, 3200-05, 3200-08

Fairview Nursery 4

Upgradient wells – 3300-01, 3300-05

Downgradient wells – 3300-02, 3300-03, 3300-04

- c.) Any well not identified above will not be used for ground water monitoring.
- d.) Seaboard will plug and abandon monitoring wells 519-06, 585-04, 6200- 04, 6300-02, and 6300-03. These wells will not be replaced.
- e.) After the end of the five-year semi-annual monitoring period, Seaboard intends to perform all monitoring on an annual basis following Oklahoma CAFO regulations (except to the extent that such monitoring is being performed by the State of Oklahoma), and using the well sets identified in 2.3.2(a) and 2.3.2(b), above. However, a failure to do so will not be a violation of this Decree.
- f.) Reporting Requirements: Defendants shall provide all ground water monitoring data to EPA within 45 days of receipt of preliminary or final laboratory analytical data, whichever is received earlier.

2.4 LEAK DETECTION RESPONSE

- a.) With respect to the lagoons at Lacey 4 Grimes or Lacey 6 Miller, for five years following entry of this Decree, if collected leachate tests higher than 10 mg/L nitrate-nitrogen, Seaboard shall notify EPA of these results when they are reported to the State of Oklahoma or within 30 days of Seaboard's receipt of the preliminary laboratory analytical data, whichever occurs first.
- b.) With respect to the lagoons at Lacey 1 Bryan and Norris, Lacey 3 Watson, and the Fairview Nursery Complex, Defendants shall, within 90 days after entry of this Consent Decree, propose to EPA a buffer zone for each farm, using MODFLOW or another EPA-approved alternative, that represents the predicted aerial extent of ground water

contamination from facility Infrastructure Source(s) after a period of seven years. Defendants may update the inputs to the buffer zone model at any time, using new fate and transport data, to revise the buffer zone extent, subject to EPA approval of the revision.

- c.) For five years following entry of this Decree, with respect to the lagoons at Lacey 1 Bryan and Norris, Lacey 3 Watson, and the Fairview Nursery Complex, if at any of these farms, Seaboard or EPA identifies a 12 mg/L nitrate-nitrogen or higher differential between up-gradient and down-gradient levels in ground water, such condition will be deemed a “trigger condition” (i.e., a ground water observation that indicates probable Infrastructure Source leakage), and Seaboard shall respond as follows:
- 1.) Ground water monitoring conducted pursuant to section 2.3.2 above shall utilize only the well sets identified for each farm in section 2.3.2. Seaboard shall not use any water supply wells for leak detection monitoring.
 - 2.) For each individual monitoring event, the maximum up-gradient concentration from each well set shall be compared to the maximum down-gradient concentration from each well set to calculate the difference.
 - 3.) Seaboard shall confirm any observed trigger condition with a second sampling event. Seaboard shall provide the results from this second sampling event to EPA within 120 days of the initial notice to EPA of the detection of a trigger condition. If a trigger condition is confirmed by the second sampling, Seaboard shall continue to assess the likelihood and extent of leakage due to Infrastructure Source(s), as required in Paragraphs 4 through 7 of this section.
 - 4.) Seaboard shall perform a DPT ground water assessment at any Infrastructure Source experiencing a confirmed trigger condition and report results to EPA within 30 days of receipt of preliminary laboratory analytical data. If this data verifies the apparent presence of a leakage condition, the Infrastructure Source will be considered suspect and Seaboard shall commence a 6-month evaluation period for that Infrastructure Source.
 - 5.) During the 6-month evaluation period, Seaboard shall install an in-well data-logger in at least one down gradient well, and shall sample the other surrounding monitor wells (listed in Section 2.3.2) at least monthly. For all farms subject to this Consent Decree, no more than two wells in total shall be monitored with data loggers at any one time. Seaboard may also elect to perform additional DPT assessments.
 - 6.) If human groundwater consumption occurs within the buffer zone of a suspect infrastructure, Seaboard shall, within 60 days of identifying such consumption, propose to EPA interim remedies to mitigate or control potential exposures to nitrate-nitrogen in ground water, including but not limited to carbohydrate addition, hydraulic control, and exposure control. Upon EPA’s approval, Seaboard shall implement such interim remedies in accordance with an EPA-approved schedule.
 - 7.) If the testing performed during the evaluation period confirms the likely presence of leakage, Seaboard shall also submit to EPA a plan and schedule for repairs within 30 days of the completion of the evaluation period. If no leak is confirmed, the normal monitoring program will be resumed.

- 8.) In the event of 2 or more false positive triggers at any farm, Seaboard's evaluation procedure shall be re-evaluated and revised as warranted.

2.5 PIPE INTEGRITY EVALUATION

- a.) Seaboard shall perform annual pressure testing of lagoon-to-center pivot piping at all farms listed in Appendix A for four years following entry of this Decree, in accordance with the following test procedures:
 - 1.) Pressurize the piping to normal field operation pressure using a small pump.
 - 2.) Maintain pressurization for 30 minutes.
 - 3.) Line pressure drops of less than 10 percent of the initial test pressure during the test period will be considered passing.
- b.) If a pressure test indicates that the piping suffers from any lack of mechanical integrity, Seaboard shall complete repairs on the line before its next use, and following repairs, retest to confirm efficacy of repairs.
- c.) While Seaboard intends to continue this annual pressure testing beyond the four-year term provided in this Appendix, a failure to do so will not be a violation of this Decree.

2.6 LACEY 3 WATSON RESPONSE

Within 90 days after entry of this Decree, Defendants shall initiate, with the submission of a work plan to EPA, the following additional ground water operations/investigations at Lacey 3 Watson, as follows:

- a) Perform ground water sampling along the southern portion of the western property line. A minimum of 25 DPT sampling locations shall be evenly spaced between the southern terminus of sampling (i.e., due West of MW 580-12) and the northern terminus of sampling (i.e., due West of MW 580-10), along the western property boundary.
- b) Survey MW 580-11 using a borehole camera or other technique to confirm or refute the integrity of the well.
- c) Analyze samples for nitrate-nitrogen using field test methods with limited (e.g., 10 percent) laboratory confirmation.
- d) Analyze two nitrate-nitrogen samples isotopically, selecting samples with highest field nitrate-nitrogen concentrations for analysis.
- e) Defendants shall, within 30 days after completion of the operations and investigations herein required, submit a report to EPA including all data obtained from field work and Defendants' conclusion regarding nitrate-nitrogen source(s).
- f) If EPA finds that elevated nitrate-nitrogen in ground water above the performance standard specified in section 1.1 of Appendix B is substantially derived from suspected leakage from Infrastructure Source(s), EPA, after consulting with ODAFF to ascertain the action (if any) that ODAFF is or will be taking, may notify Defendants of these conclusions, provide supporting rationale, and request that Defendants prepare and

perform a Watson Response Plan (“WRP” or “Plan”) as provided in Paragraph (i), below.

- g) If Defendants do not contest EPA’s conclusion, Defendants shall comply with Paragraph (i) below.
- h) If Defendants elect to contest EPA’s conclusion, they shall so notify EPA within thirty (30) days of receipt of EPA’s notification, and submit documentation in support of their position. EPA may either concur in Defendants’ analysis or reject Defendants’ conclusion and provide written comments. If EPA rejects Defendants’ conclusion, then within thirty (30) days of receiving EPA’s written comments, Defendants shall either:

- (1) submit and implement a WRP as provided in Paragraph (i) below; or

- (2) submit the matter for Formal Dispute Resolution under Section IX of this Consent Decree.

Defendants’s election under this paragraph to contest EPA’s conclusion, and its pursuit of the options provided in this paragraph, shall not be deemed to be a violation of this decree regardless of the outcome of these procedures.

- i) Within 60 days of an uncontested request by EPA to submit a Watson Response Plan, or within 60 days of the conclusion of any Dispute Resolution Process resulting in the requirement to submit a WRP, Defendants shall:

- (1) submit a WRP to EPA that:

- (A) is prepared in consultation with EPA and ODAFF;

- (B) addresses the ground water remedy only and need not address source removal or Infrastructure Source replacement or repair;

- (C) requires Seaboard to achieve the performance standard in Section 1.1 of Appendix B to this Consent Decree; and

- (D) is fully consistent with all other terms, conditions, and requirements of Appendix B, except that:

- (i) the requirement set forth in Section 1.2.3 (modeling) shall be omitted;

- (ii) the requirement set forth in Section 1.2.4(e) (microbial analysis) shall be omitted;

- (iii) with respect to the requirements of Section 1.2.4, the WRP shall require two wells to be installed if ground water impact above the performance standard does not extend off property, and requires a minimum of four and a maximum of six wells to be installed if ground water impact above the performance standard extends off property; and

- (iv) the “Start Date” described in Section 1.3.2.1 shall be the date of Plan approval by EPA;

and

(2) upon approval of Defendants' WRP by EPA, implement the Plan in accordance with the approved schedule therein.

2.7 ANNUAL REPORTING

In accordance with Sections XIII and XIV of this Consent Decree (Notices and Submittals and Submissions Requiring EPA Approval), Defendants shall provide an Annual Report (see also Section 1.5 of Appendix B) to EPA on or before January 31 of each year for the previous calendar year (or on another schedule for annual submission as approved by EPA). Unless a different reporting timeframe is identified in this Appendix C for data, analytical results, evaluations, or other information, Defendants shall report information generated pursuant to activities required by the following provisions of this Appendix C, as applicable for any given year, to the EPA Project Manager in this Annual Report. Any other information required to be reported to EPA in this Appendix C may also be submitted as a part of this Report, so long as such reporting does not extend the time for such submittal beyond applicable timeframes specified herein.

- a) Section 2.1 – All sampling results, status of waste, liner, and soil removal from Lacey 4 Grimes and Lacey 6 Miller lagoons, including approximate quantities of materials removed, and locations to which materials were sent or land-applied. Regarding each such location, Defendants shall provide the results for the soil total nitrogen analyses performed prior to application, and all available historical yield information.
- b) Section 2.3 – All leachate and ground water monitoring results, including potentiometric surface maps, with digital copies of laboratory analytical reports.
- c) Section 2.5 – All results of annual piping pressure tests, as well as documentation of any repairs and retesting completed.

2.8 EARLY COMPLIANCE

- a) To the extent Defendants have commenced implementation of the actions specified in Sections 2.3, 2.4, or 2.5 at any time after January 1, 2006, but prior to entry of this Decree, and in full compliance with the requirements stated therein, Defendants may request credit for such period of early compliance against the five-year term of Sections 2.3 or 2.4, or the four-year term of Section 2.5. To obtain such credit, Defendants must submit a report for EPA's approval no later than 90 days after entry of this Decree or in their first Annual Report submitted pursuant to this Section, whichever is later, explaining what early compliance actions were taken, proposing a new end-date for the relevant requirement, and certifying, in compliance with Section XIII (Notices and Submittals) of this Consent Decree, that all such actions were taken in compliance with all the requirements of this Consent Decree. After review of this submittal, if EPA determines that the actions taken comply with the requirements of this Consent Decree, EPA shall so notify Defendants within 180 days of receipt of Defendants report and specify the new end-date that reflects the period of early compliance for the relevant requirement.
- b) To the extent Defendants have commenced implementation of the actions specified in Sections 2.1, 2.2, 2.4(b), or 2.6 at any time after January 1, 2006, but prior to entry of this Consent Decree, and in full compliance with the requirements stated herein, such actions may be credited as compliance with these Sections if

Defendants submit a report for EPA's approval no later than 90 days after entry of this Decree or in their first Annual Report submitted pursuant to this Section, whichever is later, explaining what early compliance actions were taken and certifying, in compliance with Section XIII (Notices and Submittals) of this Consent Decree, that all such actions were taken in compliance with all the requirements of this Consent Decree. If, after review of this submittal, EPA determines that the actions taken comply with the requirements of this Consent Decree, EPA shall so notify Defendants within 180 days of receipt of Defendants' report.